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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,103	01/04/2002	Kenneth L. Smith	48924US031	1532
32692	7590	10/07/2003	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			PHAN, JAMES	
PO BOX 33427			ART UNIT	PAPER NUMBER
ST. PAUL, MN 55133-3427			2872	

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/039,103

Applicant(s)

SMITH ET AL.

Examiner

James Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41,42 and 45-59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 48 is/are allowed.
- 6) ☒ Claim(s) 41-42, 45-47 and 49-59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/25/03 has been entered.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 41-42, 45-47 and 49-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips '586 or Phillips '222 in view of the "Reflexite's response to 3M letter asserting infringement of U.S. patents 5,450,235 and 5,988,820" and further in view of McGrath.

In re claims 45-46-47, 51-52, 54-55 and 57 Phillips discloses an elastomeric retroreflective sheeting 10 which comprises a first layer (12) comprising a first polymeric material, the first layer having a first and a second major surfaces; and a second layer (14) comprising a second polymeric material, the second layer having a third major surface and having a surface opposite the third major surface in which a retroreflective prism array of cube corner elements (20) is formed; the surface of the dihedral facets of the cube corner elements are coated with a reflective coating (26) for retroreflecting light (see Fig. 1). The third major surface of the second layer attaches directly or through

only a thin coating of transparent adhesive to the second major surface of the first layer (column 4, lines 24-27). Phillips further discloses that the first layer (12) comprises of polyvinyl chloride (column 3, lines 25-36) and the second layer (14) of a polymer that has a high modulus of elasticity (column 3, lines 48-53) so that the retroreflective prism array can be significantly stretched to conform to an irregular surface while not significantly diminishing its retroreflectivity.

Phillips does not disclose (1) the first layer has an elastic modulus of less than 7×10^8 Pascal and the second layer has an elastic modulus of greater than 20×10^8 pascals, and (2) a seal film applied to the cube corner elements to maintain air interface at the cube corner elements.

However, a retroreflective sheeting which comprises a first layer comprising a first polymeric material having an elastic modulus of less than 7×10^8 pascals, and a second layer comprising a second polymeric material having an elastic modulus of greater than 20×10^8 pascals is known in the art. The "Reflexite's response to 3M letter ..." discloses a retroreflective article, namely "Supper Bright" or SB tape, which comprises a retroreflective sheeting having cube corner elements. The retroreflective sheeting comprises a first layer comprising a first polymeric material (polyvinyl chloride) having an elastic modulus 1.623×10^8 pascals, the first layer having a first and a second major surfaces; and a second layer comprising a second polymeric material having an elastic modulus 22.62×10^8 pascals for improving the long-lasting durability, long-lasting brightness with flexibility and resistance to impact. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of the "Reflexite's response to 3M letter ..." in Phillips for the purpose stated in the "Reflexite's response to 3M letter ...".

Phillips in view of the "Reflexite's response to 3M letter ..." lacks a seal film applied to the cube corner elements to maintain air interface at the cube corner elements. However, this feature, the use of a seal film applied to the cube corner elements to maintain air interface at the cube corner elements, is also well known in the art. McGrath discloses a retro reflective sheeting having a seal film applied to the retroreflective sheeting to maintain air interface at the cube corner elements for **providing a flat rear surface for bonding the sheeting to a substrate** (column 1, lines 51-54, and seal film 36 in Fig. 7). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of McGrath in Phillips so as to include a sealing film (cover film) in the retroreflective sheeting (Fig. 1) of Phillips for providing a **flat rear surface** for bonding the sheeting to a substrate and, additionally, for **protecting the reflective coating** formed on the dihedral facets of the cube corner elements from external damages so as to maintain the retroreflectivity of the sheeting. Note that the addition of a seal film would not destroy the properties of the retroreflective sheeting in Fig. 1 of Phillips because in order for the retroreflective prism array that can be significantly stretched to conform to an irregular surface while not significantly diminishing its retroreflectivity, one of ordinary skilled in the art would use a seal film of a polymeric material having a low elastic modulus as that of the first layer.

In re claim 41 see column 4, lines 12-14.

In re claim 42 the portion having the thickness between valley (24) and the third major surface of the second layer (14) has been taken as a land layer which is integral with the cube corner elements (20).

In re claims 49-50 see column 3, lines 61-63.

In re claim 53 see column 4, lines 12-14.

In re claim 56 the portion having the thickness between valley (24) and the third major surface of the second layer (14) has been taken as a land layer which is integral with the cube corner elements (20).

In re claims 58-59 see column 3, lines 61-63.

Response to Arguments

Applicant's arguments filed 7/25/03 have been fully considered but they are not persuasive. Applicant has traversed the above rejection by arguing that the examiner's motivation for combining the references is originated from the teaching of the applicant. The examiner disagrees for the following reasons.

(1) The claimed feature of "a seal film ..." recited in claims 45 and 52 is clearly disclosed in McGrath, column 1, lines 51-54.

(2) The motivation, i.e. providing a flat rear surface for bonding the sheeting to a substrate, for the combination of references is also disclosed in McGrath, column 1, lines 51-54.

(3) The motivation such as "**protecting the reflective coating** formed on the dihedral facets of the cube corner elements from external damages so as to maintain the retroreflectivity of the sheeting" for the combination of references is not originated from the teaching of the applicant.

For the at least reason (3) above, the combination of references is proper.

Furthermore, in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon

hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Allowable Subject Matter

Claim 48 is allowable. See reasons for allowance in paper no. 12.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Phan whose telephone number is (703) 308-4810. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (703) 305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Phan, J.
Sept. 30, 2003


James Phan
Primary Examiner